Walking Profiler G3

The Walking Profiler G3 is a high-precision measurement instrument for collecting surface condition information, at true walking speed.

The ARRB Walking Profiler (WP) G3 produces outputs from pavement profile, providing International Roughness Index (IRI), MPD texture (as an optional parameter) and distance.

Differing from previous generations, the WP unit utilises a tri-axial accelerometer mounted on a rolling platform, to enable measurement of longitudinal profile. This platform is separate to the carriage, which means it is less susceptible to operator input.

Data can be collected at variable speeds up to 5km/hr and is controlled by an Android tablet. Real-time results are displayed on the screen, allowing for on-site decision making. Data can then be uploaded to the cloud via a Wi-Fi connection or downloaded via USB cable.

Applications

- Provides outputs of IRI, longitudinal profile and distance
- Reference tool for calibrating and assessing high speed profilers
- Suitable for many surfaces, including:
  - paved roads and footpaths
  - airfields and runways
  - building slabs
  - bridges
  - carparks

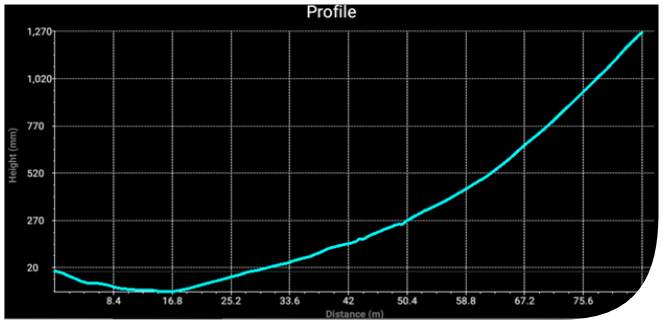
precision profiling tool for manual applications

Features

- World Bank Class 1 Profilometry device
- Varying collection speed options
- Option for MPD texture measurement
- Android tablet operation
- Bluetooth connectivity
- Outputs of ERD and PPF files, for use in ProVAL

Components

- Walking Profiler G3 unit
- Android tablet
- Battery charger
- Calibration plate and block
- Transportation case



bsi. ISO 9001 Quality Management

About ARRB

ARRB Group Ltd (ARRB) provides research, consulting and information services to the road and transport industry. ARRB applies research outcomes to develop equipment that collects road and traffic information and software that assists with decision making across road networks. ARRB is the leading provider of road research and best practice workshops in Australia. ARRB Group Ltd | ABN 68 004 620 651

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Walking Profiler G3 Datasheet

Condition	Specification
Compliance	ASTM E2133-03 *Standard Test Method for Using a Rolling inclinometer to Measure Longitudinal and Transverse Profiles on a Travelled Surface*
Speed of Operation	0 to 5km/h
Operation modes	Reference measurements: up to 1 km/h (repeatability >99%, accuracy > 98%)* General measurements: up to 3 km/h (repeatability >99%, accuracy >97%)* Quick measurements: 4-5 km/h (repeatability >97%, accuracy >94%)* Usage modes selectable from interface to aid decision of speed. Audible feedback given to user to aid in operation.
Transducers	1 tri-axial accelerometer, 1 wheel encoder, 1 temperature sensor, 1 laser (optional for texture measurement)
Units	Metric or Imperial
Data sample rate	> 2 kHz
Profile measurement interval (length)	25 mm
Wheel spacing	250 mm
Distance Accuracy	Typical error <0.045% (texture and ΔTemp dependant)
Weight	21.2 kg device only, 22.1 kg in use, 42.0 kg as shipped in case
Profilometry class	ASTM E950 Class 1, World Bank Class 1
Output Parameters	International Roughness Index (IRI), Mean Profile Depth (MPD)
Data Format	PPF, ERD, RAW (proprietary binary), CSV
IRI Accuracy	< 0.03 m/km (< ± 2 inches/mile) on high quality pavements
Wavelength measuring limits	Covers full range of roughness wavelengths up to several hundred metres
Warm up time	None (10 minutes with laser)
Battery Life	20+ hours
Operating temperature	5 - 45°C (41 - 113°F)
Data storage	10Gb on tablet, equivalent to more than 1,700km of profile data
Data transfer	Bluetooth connectivity between unit and tablet (no cables), upload to Cloud data storage via Wi-Fi
Components	Walking Profiler G3 Unit Samsung Galaxy Tab S8.4 Battery Charger Calibration equipment

*When compared to Rod and Level